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DEVELOPING AN INTEGRATED MODEL OF INTERNAL QUALITY ASSURANCE SYSTEMS AND ISO 21001:2018 FOR STRENGTHENING HIGHER EDUCATION GOVERNANCE IN INDONESIA

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Abstract. *This study develops an integrated model between the Internal Quality Assurance System (IQAS/SPMI) and ISO 21001:2018 to strengthen higher education governance in Indonesia. The study addresses the fragmented implementation of national and international quality assurance systems that often results in duplicated documentation, inefficient audit processes, inconsistent reporting, and ineffective quality management practices. Using a conceptual and integrative approach, the model was developed through five systematic stages: establishing Good University Governance (GUG), integrating IQAS and ISO 21001:2018, strengthening stakeholder engagement, ensuring continuous quality improvement, and reinforcing institutional enablers. The integrated model aligns the PPEPP cycle in IQAS with the PDCA cycle in ISO 21001:2018 to create a unified and sustainable quality assurance framework. The findings indicate that the model supports evidence-based decision-making, enhances institutional accountability and transparency, improves stakeholder satisfaction, and promotes sustainable quality improvement. The proposed model is expected to strengthen institutional competitiveness and support internationally recognized higher education governance in Indonesia.*

Keywords: IQAS (SPMI), ISO 21001:2018, Higher Education Governance, Integrated Quality Assurance, Continuous Improvement

INTRODUCTION

Higher education institutions are increasingly required to demonstrate accountability, transparency, and continuous quality improvement in response to globalization, digital transformation, and rising stakeholder expectations. In this context, quality assurance systems have become a strategic mechanism for strengthening institutional governance and educational sustainability (Atanaw & Estifanos, 2025; Hussen & Onia, 2024). In Indonesia, higher education quality assurance is implemented through the Internal Quality Assurance System (IQAS), commonly referred to as SPMI, which is mandated under the National Standards for Higher Education (SN-Dikti). At the international level, ISO 21001:2018 has emerged as a globally recognized Educational Organizations Management System standard that emphasizes learner-centered education, risk-based thinking, and continuous improvement (Santos et al., 2021). Although both

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frameworks pursue similar quality objectives, their implementation in Indonesian universities remains largely separated and unintegrated (Prihatmadji et al., 2022; Sampe & Arifin, 2024).

The parallel implementation of IQAS and ISO 21001:2018 has created structural and operational inefficiencies across many higher education institutions in Indonesia. Universities that adopt both systems are often required to maintain separate documentation structures, conduct duplicate audit activities, and prepare fragmented quality reports for different stakeholders (Nugroho & Widodo, 2023; Prasetyo et al., 2022). This dual-system approach not only increases administrative complexity but also consumes significant institutional resources without necessarily improving educational quality outcomes. Consequently, academic and administrative units frequently experience difficulties in synchronizing quality data and aligning performance indicators between national and international standards.

Several critical issues have emerged from this fragmented quality governance structure. First, inconsistencies between IQAS and ISO documentation systems often generate conflicting institutional records, reducing the reliability of reports submitted to accreditation agencies and external certifiers. Second, resource wastage becomes unavoidable as universities allocate excessive staff time, financial resources, and administrative capacity to managing overlapping quality assurance processes rather than focusing on genuine institutional improvement (Ardianti & Ramdani, 2025). Third, fragmented reporting systems hinder institutional leaders from obtaining integrated quality information needed for evidence-based strategic decision-making. These conditions may ultimately weaken stakeholder trust, including that of students, industry partners, accreditation bodies, and government institutions.

Despite the growing adoption of ISO 21001:2018 in Indonesian higher education institutions, studies addressing the integration of IQAS and ISO 21001:2018 remain limited. Existing research primarily focuses on compliance, accreditation readiness, or isolated quality management practices rather than the development of an integrated governance model. Therefore, this study aims to develop an integrated model of Internal Quality Assurance Systems and ISO 21001:2018 to strengthen higher education governance in Indonesia. The proposed model is expected to support institutional effectiveness, improve quality governance integration, reduce duplication of processes, and enhance sustainable continuous improvement in higher education institutions (Standardization, 2018).

LITERATURE REVIEW

The literature on higher education governance positions accountability, transparency, and stakeholder orientation as the primary foundations in managing the quality of higher education institutions. An integrated governance system is considered capable of improving data consistency, strengthening evidence-based decision-making, and reducing administrative duplication in quality assurance processes. Research by Khaliun explains that the implementation of ISO 21001:2018 can support the principles of good governance through increased stakeholder engagement and a culture of continuous improvement (Rahmawati et al., 2024). Meanwhile, Niluh emphasizes that ISO 21001:2018 provides a systematic quality management framework to enhance transparency, accountability, and organizational effectiveness in higher education institutions (Kusumawati, 2023).

In the Indonesian context, the Internal Quality Assurance System (IQAS), which refers to the National Standards for Higher Education (Standar Nasional Pendidikan Tinggi/SN-Dikti), serves as the main element of higher education quality governance. The implementation of IQAS is mandatory for all higher education institutions as the basis for accreditation fulfillment conducted by BAN-PT. This system encourages universities to implement continuous quality cycles in order to achieve improvements in institutional quality and academic services (Darwis et al., 2017). Research by Tohet shows that the implementation of quality standards based on ISO 21001:2018 can strengthen higher education quality governance through more structured and well-documented administrative management (Tohet & Eko, 2020). The implementation of ISO 21001:2018 also contributes to the establishment of a quality culture in

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higher education institutions through process consistency and the improvement of academic service quality (Sitorus, 2021).

ISO 21001:2018 itself is an international standard specifically designed for Educational Organizations Management Systems (EOMS). This standard emphasizes a learner-centered approach, stakeholder engagement, risk-based management, and continuous improvement in the management of educational organizations. Rahmawati explains that ISO 21001:2018 provides a process approach that supports alignment between the vision, mission, and strategies of educational institutions with the needs of learners and other stakeholders. ISO 21001:2018 functions not only as a quality assurance framework but also as an instrument for improving learner satisfaction and strengthening the international reputation of educational institutions (Rahmawati et al., 2024).

The literature review also indicates structural compatibility between the PDCA (Plan-Do-Check-Act) cycle in ISO 21001:2018 and the PIECI/PPEPP cycle (Determination, Implementation, Evaluation, Control, and Improvement) in the IQAS of Indonesian higher education institutions. This similarity serves as an important foundation for the development of an integration model between the two quality systems. Research by Tosti explains that ISO 21001:2018 and SN-Dikti demonstrate process alignment through the PDCA approach and risk-based thinking, thereby enabling a more efficient integration of quality management systems (Sitorus, 2021). Similar findings were also presented by Siti, who identified a significant correlation between ISO 21001 standards and quality assurance guidelines in higher education institutions, enabling institutions to conduct certification and accreditation processes more effectively through a single integrated quality system (Rokhmah et al., 2025).

Based on these various studies, it can be understood that the integration between SPMI/IQAS based on SN-Dikti and ISO 21001:2018 has substantial potential to improve the effectiveness of higher education quality governance. This integration not only helps institutions fulfill national regulatory requirements and international standards simultaneously, but also supports the improvement of operational efficiency, quality data integrity, and a culture of continuous improvement. Therefore, the development of a quality integration model based on IQAS and ISO 21001:2018 is considered relevant in addressing the challenges of modern higher education governance, which demands accountability, global competitiveness, and sustainable institutional quality.

METHODS

This research uses a Research and Development (R&D) method with a qualitative case study approach to integrate two higher education quality governance standards. The main focus of this research is to design, compile, and validate a new product in the form of an Integrated Quality Manual document. This single document combines a national-based Internal Quality Assurance System (IQAS), commonly referred to as SPMI with the international standard ISO 21001:2018. Through a case study approach in higher education, this method facilitates an in-depth analysis of institutional needs. The implementation of the R&D model ensures that the integration of the Determined, Implementation, Evaluation, Control and Improvement (PPEPP), and is also known as PIECI structure and the PDCA cycle is systematic and adaptive, and produces an effective, efficient, and ready-to-implement quality operational guide. Previous studies have highlighted that ISO 21001:2018 provides a systematic process-based management structure that strengthens transparency and accountability in educational institutions (Ardianti & Ramdani, 2025), while the IQAS framework supports sustainable quality assurance implementation in Indonesian higher education institutions (Darwis et al., 2017).

The quality document integration process in this study was conducted systematically through three sequential data analysis stages. The first stage began with a comparative analysis using the crosswalk matrix technique to compare the clause structure of ISO 21001:2018 with the national higher education standards in the PIECI instrument. This initial stage aimed to map the intersection, alignment, and equivalent operational elements of the two governance models. Next, a gap analysis was applied in depth to identify

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specific requirements in ISO 21001:2018 that were not yet accommodated in the existing PIECI document, such as risk management aspects and the learner-focus principle. The final stage involved the Integrated Management System (IMS) method to fully integrate the PIECI cycle of SPMI and the PDCA cycle of ISO 21001:2018 into a single institutional governance architecture. Through this comprehensive synthesis, a draft of the Integrated Quality Manual was prepared by merging the planning, implementation, and performance evaluation aspects of both standards to eliminate redundant document bureaucracy and ensure the success of quality audits. These findings are consistent with previous studies stating that ISO 21001:2018 and higher education quality assurance systems can be effectively integrated through process alignment and risk-based management approaches (Sitorus, 2021).

RESULTS AND DISCUSSION

Stage-by-Stage Development of the Integrated IQAS and ISO 21001:2018 Model, in 5 stages.

The integrated model shown in the figure was not developed instantly as a complete framework. Instead, the model was conceptually constructed through several systematic stages to ensure that the integration between the Internal Quality Assurance System (IQAS/SPMI) and ISO 21001:2018 could effectively strengthen higher education governance in Indonesia. The following five stages explain the logical development process of the model until it became a comprehensive integrated governance framework.

<table>
<tr><th>Five Stages of Building IQAS and ISO 21001:2018 Integration</th><th>Explanation of each stage</th></tr>
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Figure 1. Stage 1 determination activity
</td><td>
Stage 1 — Establishing the Governance Foundation
The first stage focuses on defining the fundamental governance philosophy of the model, namely Good University Governance (GUG). At this stage, the model recognizes that quality assurance cannot operate effectively without strong governance principles. Therefore, five major governance values are established as the institutional foundation:
1. Accountability
2. Transparency
3. Responsibility
4. Independence
5. Fairness
These principles ensure that all academic and managerial processes are conducted ethically, transparently, and consistently. In this stage, the external context influencing higher education institutions is also identified, including:
1. Globalization and Education 4.0
2. Sustainable Development Goals (SDGs)
3. National education regulations
4. Stakeholder expectations
The purpose of this stage is to create a governance-oriented quality culture before integrating operational quality systems.
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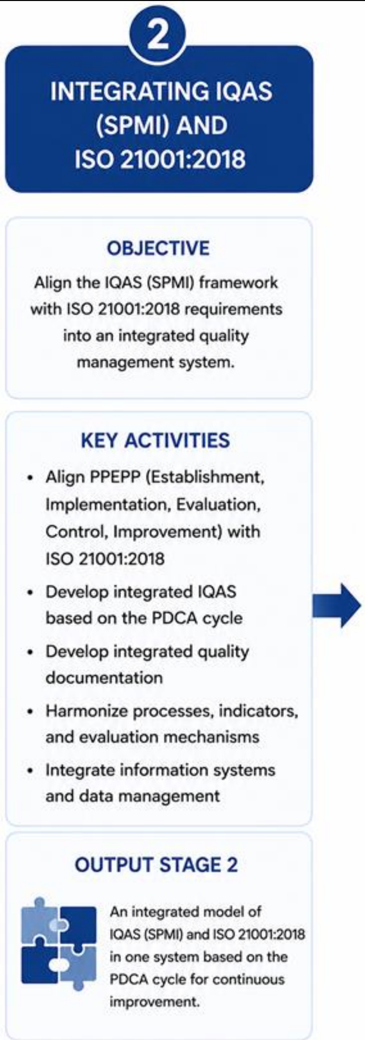

Figure 2. Stage 2 determination activity
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Stage 2 — Integrating IQAS/SPMI and ISO 21001:2018

The second stage is the core integration process between the national and international quality assurance frameworks.

On the left side of the model, IQAS/SPMI is represented through the **PPEPP/PIECI cycle**:

1. Determination
2. Implementation
3. Evaluation
4. Control
5. Improvement

This cycle emphasizes compliance with Indonesia’s National Higher Education Standards and internal quality assurance mechanisms.

On the right side, ISO 21001:2018 introduces the international Educational Organization Management System framework based on the **PDCA cycle**:

1. Plan
2. Do
3. Check
4. Act

The integration process aligns the PIECI mechanism with PDCA principles to eliminate duplicated processes, fragmented reporting systems, and disconnected quality documentation. Through this integration, universities can operate a unified quality assurance system rather than maintaining separate governance structures.

The central integrated quality assurance cycle in the figure symbolizes the synchronization between national standards and international management system approaches.
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Five Stages of Building IQAS and ISO 21001:2018 Integration	Explanation of each stage
 Figure 3. Stage 3 determination activity	**Stage 3 : Establishing Stakeholder-Centered Governance** After the integration structure is formed, the third stage ensures that the system becomes stakeholder-oriented. Higher education institutions operate within a multi-stakeholder ecosystem. Therefore, the integrated model identifies the involvement of: 1. Students and learners 2. Faculty members and educators 3. University leaders and staff 4. Government institutions 5. Industry and partners 6. Alumni 7. Community This stage emphasizes that quality assurance should not merely focus on administrative compliance but also on stakeholder satisfaction and institutional relevance. Stakeholder involvement strengthens: 1. institutional legitimacy, 2. public trust, 3. collaboration, 4. and responsiveness to societal needs. This stakeholder-centered approach is also aligned with ISO 21001:2018, which emphasizes learner satisfaction and stakeholder engagement as key elements of educational quality management.

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Five Stages of Building IQAS and ISO 21001:2018 Integration	Explanation of each stage
 Figure 4. Stage 4 determination activity	**Stage 4 — Ensuring Continuous Quality Improvement and Sustainability** The fourth stage focuses on building a sustainable continuous improvement mechanism. At this stage, the integrated model combines: 1. evidence-based decision making, 2. risk management, 3. data analytics, 4. and information system integration. These elements support universities in making accurate strategic decisions based on reliable institutional data. Continuous improvement becomes the operational heart of the model through: 1. monitoring and evaluation, 2. internal audits, 3. corrective actions, 4. and systematic quality enhancement processes. The expected outcomes generated from this stage include: 1. improved educational quality, 2. increased stakeholder satisfaction, 3. stronger university governance, 4. international recognition, 5. and sustainable institutional development. Thus, quality assurance is transformed from a compliance-oriented activity into a strategic governance instrument for long-term institutional sustainability.

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Figure 5. Stage 5 determination activity
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Stage 5 — Strengthening Integration Through Enablers
The final stage establishes the supporting factors, or enablers, that ensure the successful implementation and sustainability of the integrated model.
The model identifies several strategic enablers:
1. Quality Culture
2. Leadership and Commitment
3. Digitalization
4. Competence Development
5. Collaboration and Partnership
6. Resource Management
7. Innovation and Continuous Improvement
These enablers function as institutional driving forces that maintain the effectiveness of the integrated governance system.
For example:
1. digitalization supports integrated quality information systems,
2. leadership commitment strengthens policy implementation,
3. competence development improves human resource capability,
4. and innovation ensures adaptability to future educational challenges.
Without these enabling factors, the integration between IQAS/SPMI and ISO 21001:2018 would remain procedural rather than transformational.

Integrated Model Conclusion
The final integrated model demonstrates that strengthening higher education governance requires more than simply combining quality assurance documents. Instead, it requires a comprehensive governance ecosystem that integrates:
• national and international quality standards,
• stakeholder participation,
• continuous improvement mechanisms,
• governance principles,
• and institutional enablers.
Therefore, the integration of IQAS/SPMI and ISO 21001:2018 based on Permendikti Saintek No. 39 of 2025 provides a strategic framework for developing accountable, sustainable, adaptive, and internationally competitive universities in Indonesia.
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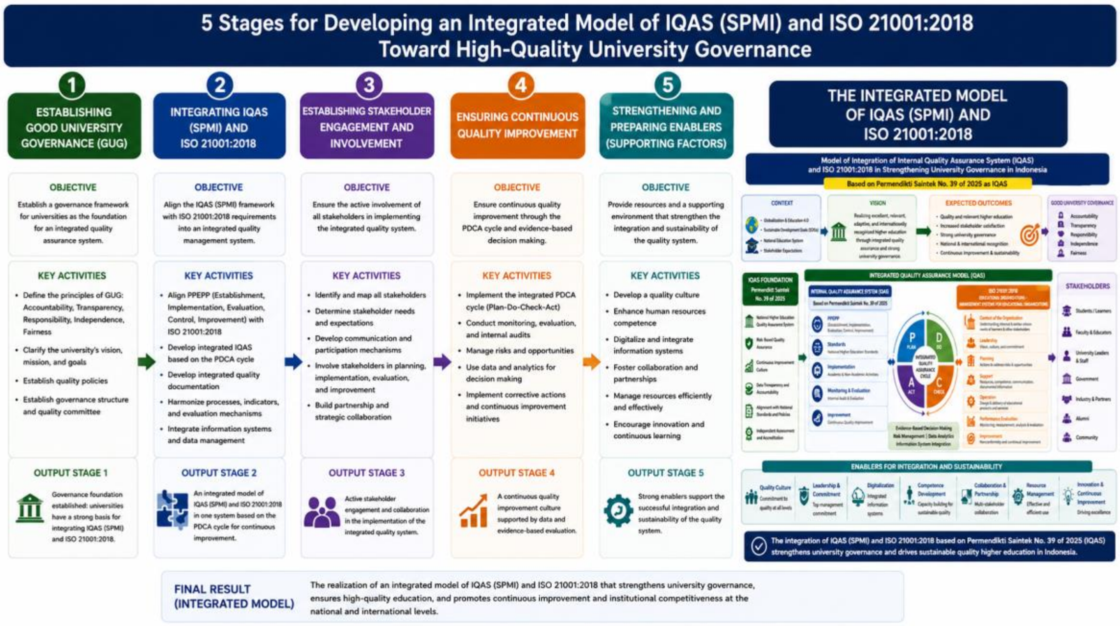

Figure 6. integrated model between IQAS (SPMI) and ISO 21001:2018

This figure illustrates the five systematic stages for developing an integrated model between IQAS (SPMI) and ISO 21001:2018 to strengthen university governance in Indonesia. The model begins with establishing Good University Governance (GUG), followed by integrating national and international quality assurance systems, strengthening stakeholder involvement, and implementing continuous quality improvement through the PDCA cycle.

The final stage emphasizes the importance of supporting enablers, including leadership, digitalization, quality culture, competence development, collaboration, and resource management. Collectively, these stages produce a sustainable integrated quality assurance model that enhances accountability, institutional effectiveness, stakeholder satisfaction, and the global competitiveness of higher education institutions.

The proposed integrated model provides strategic implications for higher education leaders and quality assurance managers in Indonesia. By integrating IQAS (SPMI) and ISO 21001:2018 into a unified quality assurance framework, universities can reduce duplicated quality management processes, improve institutional efficiency, and strengthen evidence-based decision-making. The model also supports the development of Good University Governance through enhanced accountability, transparency, stakeholder engagement, and continuous quality improvement. Furthermore, the integration framework can assist universities in aligning national higher education standards with international educational management practices, thereby improving institutional competitiveness and global recognition.

This study is limited to the conceptual development of an integrated model based on literature analysis and regulatory alignment without empirical testing in higher education institutions. The proposed model has not yet been implemented or validated through quantitative or longitudinal studies involving universities in Indonesia. In addition, differences in institutional capacity, organizational culture, leadership commitment, and technological readiness may influence the effectiveness of model implementation across universities. Therefore, future studies are recommended to conduct empirical evaluations and comparative case studies to examine the practical effectiveness and sustainability of the integrated model in different higher education contexts.

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CONCLUSIONS

The development of an integrated model between the Internal Quality Assurance System (IQAS/SPMI) and ISO 21001:2018 demonstrates that effective higher education governance requires a comprehensive and systematic quality assurance framework. The model confirms that the integration of national quality assurance mechanisms with international educational management standards can create a more coherent, efficient, and sustainable governance system for Indonesian universities. Through this integration, institutions can reduce fragmented quality practices, improve institutional coordination, and strengthen accountability and transparency.

The study also highlights that successful integration is not limited to aligning quality assurance procedures, but must be supported by strong governance principles, stakeholder engagement, continuous improvement mechanisms, and institutional enablers. The five development stages, establishing Good University Governance, integrating IQAS and ISO 21001:2018, strengthening stakeholder involvement, ensuring continuous quality improvement, and reinforcing supporting enablers, collectively form a strategic framework for sustainable quality management in higher education institutions.

Ultimately, the integrated model provides a strategic contribution to strengthening higher education governance in Indonesia by promoting evidence-based decision-making, institutional effectiveness, stakeholder trust, and continuous quality enhancement. The model is expected to support universities in achieving national quality standards while simultaneously enhancing international recognition, institutional competitiveness, and long-term educational sustainability in the era of global higher education transformation.

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